Table 1. Process Areas Sampling Schedule

Component	I.D. On Figures	Surface Samples Collected	Analyses	Rationale For Sample Locations And Analyses
Administration Building	A (Figure 4A)	1	Full Profile Analyses	This building (A; Figure 4A) was used for administrative purposes, and consists of several offices and a rest room. There is no documentation that this building was used for activities related to physical ore processing or any other type of ancillary activity that involved potential contaminants of concern. The only area around the building that represents a potential area for contaminants of concern is in front of the overhead garage door where movement of equipment could have occurred, and thus the potential for oil or gasoline leaks. Therefore, one surface sample will be collected from in front of the garage door and submitted for full profile analyses. According to a former Airmetco employee, fuel may have been dispensed from a fuel island located to the northeast of the building at some time during the operation of the mine, although there is no physical indication of a former fuel island in the area (no staining or piping present). The possible former fueling station represents an area of potential impact from diesel or gasoline. It is not likely that PCBs were present at the former fuel station, since there is no reason to believe that significant amounts of oil were stored or used regularly in normal operations. The approximate area where the former fuel island is believed to have been is shown in Figure 4A. However, the exact location is uncertain; therefore, field locating devices and, if necessary, excavating equipment, will be used to located the former UST and associated piping, if it still exists.
Old Tire Pile	B (Figure 4B)	0	--	There was no discolored soil observed in the area of the tire pile (B; Figure 4B), and no indication of equipment storage or repair. This area appears to have been simply a convenient location to congregate used/worn tires. There is no reason to believe that potential contaminants of concern were stored or used at this location.
Equipment Wash building	C (Figure 4B)	2	Full Profile Analyses	The Equipment Wash Building (C; Figure 4B) was used to wash small portable equipment within the building. A sign mounted on the northeast wall inside the building indicates that “cleaning solution” tanks were positioned along that interior wall at one time. An area of dark-stained ground surface approximately two feet in diameter was observed next to the sump. There is a single entrance to the building. Therefore, two samples will be collected, one from next to the sump in the dark-stained area, and one from in front of the entrance doorway. Samples will be submitted for full profile analyses.
Change House	D (Figure 4A)	2	Full Profile Analyses	The Change House (D; Figure 4A) was used as a dressing room and showers and is empty except for some dry scraps of materials. A small room at the north corner of the building was a former laboratory. No chemicals are present in the lab. No discoloration of ground surface was observed. The small size of the room makes it unlikely that large quantities of chemicals or solvents were stored there. There is no reason to believe that any potential contaminants other than those associated with the laboratory (e.g., small amounts of acids and inorganic lab chemicals) would be present at this location. Therefore, two samples will be collected; one from in front of the main doorway and one from in front of the doorway to the lab. Samples will be submitted for full profile analyses.
School House	E (Figure 4A)	2	Full Profile Analyses	The School House (E; Figure 4A) contains chairs and file cabinets in one half of the building and stored core samples and file storage in the other half. There are restrooms present in the building. The building, as the name implies, was used as a school. There is no reason to believe that any potential contaminants of concern were ever stored or used within the building. However, two samples will be collected; one from in front of the overhead door on the southwest side of the building, and one from in front of the single-wide entrance. Samples will be submitted for full profile analyses.
Assay Laboratory	F (Figure 4A)	4	Full Profile Analyses	The Assay Laboratory (F; Figure 4A) contains a loading dock along the southwest, northeast, and northwest sides of the building, and a basement at the southeast end of the building that is below approximately one third of the first floor area. There are two overhead service doors along the northeast and southwest sides of the building at the center of the loading dock. The center section of the building was used as a warehouse and shop area. The service doors along the loading docks represent areas where equipment and materials were moved in and out of the building. Therefore, four samples will be collected, including one in front of each overhead service doors, one from the loading dock area along the northwest side, and one from in front of the single-wide entrance. The assay laboratory represents a potential source of leaking acids, and it is possible that VOCs that may have been stored for use as solvents. Since the building was also used as a shop, the potential exists for leaking equipment and storage of oils and lubricants. Samples will be submitted for full profile analyses.
Large Warehouse	G (Figure 4A)	3	Full Profile Analyses	The Large Warehouse (G; Figure 4A) contains fittings, supplies, miscellaneous scrap steel, debris, and some tools. There is a large overhead service door along one side of the building. A two-inch diameter pipe is protruding from the ground at the north corner of the building. A small area of dark-stained soil was observed at the southeast end of the building. Therefore, three samples will be collected from around the building: one in front of overhead doors, one next to the protruding pipe, and one in the stained area. The potential contaminants of concern are those associated with ancillary equipment storage and maintenance, including large equipment (containers of lubricant or oil) and solvents. Since the building was a warehouse, there exists a reasonable potential for storage of herbicides and pesticides. Samples will be submitted for full profile analyses.
Small Warehouse	H (Figure 4A)	2	Full Profile Analyses	There are 91 used transformers and oil-filled switches being stored in the Small Warehouse (H; Figure 4A), and most of the transformers have been tagged as containing PCBs. There is a service entrance door along one side of the building. Therefore, two samples will be collected, including one from in front of the service entrance and one from the single-wide entrance. The potential contaminants of concern are those associated with the transformers and ancillary equipment storage and maintenance, including large equipment (containers of lubricant or oil) and solvents. Since the building was a warehouse, there exists a reasonable potential for storage of herbicides and pesticides. Samples will be submitted for full profile analyses.
Fire Engine Storage	I (Figure 4A)	2	Full Profile Analyses	The Fire Engine Storage building (I; Figure 4A) was originally used to house fire-fighting equipment, fire trucks, and an ambulance. A large overhead service door opens up along one side of the building to a 40-foot wide concrete driveway. Six large used transformers were stored in the Fire Engine Storage building at the time of inspection, and some of these transformers were labeled as containing PCBs. The rest of the building is empty. There was no observed staining or discoloration of the ground surface near the building. Therefore, two samples will be collected: one in front of the overhead service door, and one from in front of the single-wide entrance. The potential contaminants of concern are those associated with the transformers, truck storage and maintenance, including containers of lubricant or oil. Samples will be submitted for full profile analyses.

Table 1. Process Areas Sampling Schedule -- Continued

Component	I.D. On Figures	Surface Samples Collected	Analyses	Rationale For Sample Locations And Analyses
Grease Shop #1	J (Figure 4A)	1	Full Profile Analyses	The Grease Shop #1 (J; Figure 4A) was used for shop and storage activities, including, as the name implies, grease and lubricants. The building is presently empty. There is a single-wide entrance to the small building. Therefore, one sample will be collected from in front of the entrance. Stored lubricants and oils represent a potential source of PCB. Samples will be submitted for full profile analyses.
Truck Shop	K (Figure 4A)	9	Full Profile Analyses	The south half of the Truck Shop (K; Figure 4A) was used as a machine shop, which was metal-partitioned from the north half of the building, and the southeast portion of the building contained offices. There are overhead service doors along the northeast side of the building, which provided access to the large equipment repair shop. There were two grease pit trenches at the northern end of the machine shop, near the center of building, each measuring 4 feet wide by 30 feet long; one of these pits still exists. The pit has been drained of oily water observed during inspection. A floor drain exits the Truck Shop with a discharge point to the ground surface approximately 600 feet to the northeast of the building. Several areas are present on the concrete floor where former floor drains have apparently been filled in with cement. At the northwest end of the Truck Shop, three oil tanks of approximately 3,000-gallons capacity inside concrete secondary containment are located outside the building. Dark-stained ground surface is apparent along the edge of the secondary containment. Stained ground surface is also apparent near the outside southwest wall at the northwest corner of the building, along a two-inch plastic pipeline that is installed between a large concrete secondary containment structure (no tanks are present) and the inside of the building. Electrical transformers were re-conditioned inside the Truck Shop in the 1980s by a company named Unison. Therefore, nine samples will be collected, including one at each of the two service doors, one at each of two single-wide entrances, two in the area of the secondary containment, one in the dark-stained area at the northwest end of the building, one alongside the building where the floor drain exits, and one in the dark-stained area along the pipeline on the southwest wall. It is apparent that the Truck Shop was used for large equipment servicing and transformer storage, and thus represents a potential source for oils, gasoline, solvents, and PCB. Samples will be submitted for full profile analyses.
Equipment Garage	L (Figure 4A)	4	Full Profile Analyses	There are six large overhead service doors along the southwest side of the Equipment Garage (L; Figure 4A), and another overhead door at the southeast corner. It is likely that vehicles and equipment were moved in and out of the building through these overhead doors. Large equipment were serviced inside the building. The northeast corner of the building was occupied by an office. An unknown number of 55-gallon drums were stored at the Equipment Garage. A small sump is located outside the building at the south corner. An area of dark-stained ground surface is apparent along the northeast side of the building. Therefore, four samples will be collected , including one from in front of the large overhead doors, one from next to the sump, one from in front of the southeast overhead door, and one from the area of dark-stained ground surface. It is apparent that the Equipment Garage was used for vehicle and/or equipment servicing and storage, and thus represents a potential source for oils, gasoline, solvents, and PCB. Samples will be submitted for full profile analyses.
Truck Wash and Paint Shop	M (Figure 4C)	3	Full Profile Analyses	The Truck Wash and Paint Shop (M; Figure 4C) has two large overhead doors on opposing sides of the building where vehicles and equipment entered and exited. The building was used as a wash rack for equipment and stock. There was also apparently painting of equipment conducted inside the building, as the name implies. Some dark staining is apparent on the ground surface outside of the building in front of the overhead doors. A small sump exists outside at the north corner of building. Therefore, three samples will be collected , including one from in front of the rear overhead doors in the stained area, one from in front of the entrance overhead doors, and one from next to the sump. Cleaning solvents could have potentially been used to clean truck engines or other equipment parts. Samples will be submitted for full profile analyses.
Carpenter Shop	N (Figure 4B)	1	Full Profile Analyses	The Carpenter Shop (N; Figure 4B) contains an office and shop area. The southeast end of the building has overhead service doors. The shop is empty except for scrap supplies and a few tools and equipment. A small concrete sump with a valve is present outside the northwest wall of the building. There is no indication that the building was ever used for other activities other than for carpentry work, thus there is no reason to believe that any potential contaminants of concern were ever used or stored in the shop. However, one sample will be collected from the sump area. Samples will be submitted for full profile analyses.
Lead Shop	O (Figure 4B)	3	Full Profile Analyses	The Lead Shop (O; Figure 4B) has a large service door on one side of the building, and a steel I-beam inside the building once supported a crane, apparently for lifting stock. The service door represents an area where movement of materials in and out of the building occurred. The building was used as a lead shop, where it is likely that lead pipes were worked and perhaps lead pipe joints constructed. There is no evidence that the building was used for storage of potential contaminants of concern, or for any other purpose other than a lead shop. The shop is empty of any materials or equipment. Therefore, three samples will be collected: one from in front of the service door and two along the northeast and southwest sides of the building. Samples will be submitted for full profile analyses.
Leach Vats	P (Figure 4C)	10	Full Profile Analyses and Radionuclides	The Leach Vats (P; Figure 4C) were used to percolate acid leach solution through the crushed ore from the Secondary Crusher. There are eight leaching vats, each 10 feet apart. Each vat measures120 feet by 135 feet by 20 feet deep, with an average 18-inch concrete walls and concrete floors, although the wall thickness is reported to range from one foot thick at the top to three foot thick at the bottom. The robust construction of the vat walls and floors makes it unlikely that cracks ever developed completely through the structure. The interior of the vats will be inspected for such cracks, however, and if any are observed, these will be recorded and inspected. Samples will be collected along the perimeter of the structure by drilling boreholes to a depth of approximately 5 feet below the bottom of the vats and collecting the samples with a split-spoon sampler, at two corners of each vat and at the end of the vats, as close as possible to the vat walls. This results in a total of 10 samples. The potential contaminants of concern are the acid solution that was contained within the vats. Additionally, the vats were serviced by a permanent overhead rolling crane, which represents a potential source of leaking lubricant. There is no indication that transformers or oils containing PCB were ever used or stored at the Leach Vats. Samples will be submitted for full profile analyses and radionuclides.

Table 1. Process Areas Sampling Schedule -- Continued

Component	I.D. On Figures	Surface Samples Collected	Analyses	Rationale For Sample Locations And Analyses
Quonset Hut	Q (Figure 4A)	4	Full Profile Analyses	The apparent use of the Quonset Hut (Q; Figure 4A) was to store electrical equipment. The building and storage yard contain old scrap electrical supplies such as wire, switches, lights, and control equipment. The yard was formerly used to store transformers, and at least one old transformer is still present in the storage yard. Therefore, four samples will be collected: one from inside the building on the dirt floor, and three from around the storage yard at locations where equipment is currently stored. Leaking transformers represent a potential source of oil and PCB. Samples will be submitted for full profile analyses.
Emergency Shed	R (Figure 4A)	2	Full Profile Analyses	The name Emergency Shed (R; Figure 4A) suggests that "emergency" supplies were stored inside. Emergency supplies could include gasoline or diesel for generators. It is not likely that emergency supplies included acids, solvents, or other chemicals. The building is empty except for stored soil samples and scraps of materials. There is a 2-inch pipeline protruding from the ground near the southeast corner of the building. The building has a single entrance door. Therefore, two samples will be collected, including one from in front of the entrance and one from next to the pipe. Samples will be submitted for full profile analyses.
Sheet Metal Shop	S (Figure 4A)	2	Full Profile Analyses	The Sheet Metal Shop (S; Figure 4A) was used as a sheet metal fabrication shop. The building is empty except for scrap and debris on the floor. An attached shed on the east wall of the building is locked and labeled "Diesel". The building has a service entrance and single-wide doorway on the northeast side. Therefore, two samples will be collected: one from in front of the service entrance and one next to the diesel shed. There is no reason to believe that any potential contaminants of concern, other than diesel fuel, may have been stored or used in this shop. There is no indication that the building was used for any purpose other than as a sheet metal shop. Samples will be submitted for full profile analyses.
Storage Building	T (Figure 4A)	0	--	The Storage Building (T; Figure 4A) contains scrap piping and a portable generator. There is no indication that potential contaminants of concern were ever stored or used at this building.
Filling Station #1	U (Figure 4A)	2	Full Profile Analyses	The petroleum Filling Station #1 (U; Figure 4A) consists of two above-ground storage tanks that are not housed in a building. The tanks are currently being used to refuel vehicles. There is one 10,000-gallon tank in secondary containment consisting of an earthen berm and plastic liner, and a second tank of 1,000-gallon capacity with no secondary containment. Therefore, two samples will be collected: one from as close as possible to the containment wall and one near the tank where no containment exists. This fueling station represents a potential source for impact from diesel fuel and gasoline. Samples will be submitted for full profile analyses.
Grease Shop #2	V (Figure 4A)	1	Full Profile Analyses	The Grease Shop #2 (V; Figure 4A) was used for shop and storage activities, including, as the name implies, grease and lubricants. The small building contains dry scrap and debris. There is one single-wide doorway. Therefore, one sample will be collected from in front of the doorway. Stored lubricants and oils represent a potential source of PCB. Samples will be submitted for full profile analyses.
Filling Station #2	W (Figure 4A)	1	Full Profile Analyses	The former petroleum Filling Station #2 (W; Figure 4A) has fuel pumps located in the station shed and two two-inch underground lines protruding from the ground outside the southeast end of the building, a possible indication of the presence of underground petroleum storage tanks. Therefore, one sample will be collected from inside the shed next to the pumps. Utility locating devices will be used and/or excavation will be conducted to confirm the presence or absence of UST(s) at this location, near the protruding pipes. This fueling station represents a potential source for impact from diesel fuel and gasoline. Samples will be submitted for full profile analyses.
Filling Station #3	X (Figure 4A)	1	Full Profile Analyses	The former gasoline Filling Station #3 (X; Figure 4A) is plastic-lined with pipes protruding from the ground and fuel pumps located in the station shed, a possible indication of the presence of underground petroleum storage tanks. Therefore, one sample will be collected from inside the shed next to the pumps. Utility locating devices will be used and/or excavation will be conducted to confirm the presence or absence of UST(s) at this location, near the protruding pipes. This fueling station represents a potential source for impact from diesel fuel and gasoline. Samples will be submitted for full profile analyses.
Electrical Shop	Y (Figure 4A)	0	--	The Electrical Shop (Y; Figure 4A) was used to store electrical equipment and supplies, and contains shelves full of wire, fittings, and devices. There are no containers of any liquids or chemicals inside the building. The small spacing of the aisles and shelves precludes the storage of any large transformers. There is no indication that any potential contaminants of concern were ever stored or used in this building.
Used Oil Tank	Z (Figure 4B)	1	Full Profile Analyses	An 1,800-gallon used oil tank (Z; Figure 4B) is present north of the Truck Shop (K). The tank is inside secondary containment, but some dark staining is apparent on the ground surface near the secondary containment. Therefore, one sample will be collected in the stained area next to the secondary containment. The tank contents and the stained ground surface represent a potential for impact from used oil or solvents. Samples will be submitted for full profile analyses.
Core Building	AA (Figure 4E)	2	Full Profile Analyses	The Core Building (AA; Figure 4E) is located southwest of the Process Areas and contains several hundred boxes of core samples on shelves. The building is constructed of sheet metal on framework without a floor (i.e., a dirt floor). There is a single service entrance. The building was constructed a relatively long distance (nearly ¼ mile) from the edge of the existing Process Area. There is no apparent indication as to the nature of prior operations or use of the building. Although shelving covers much of the floor space, no discoloration of the floor or surrounding ground surface is apparent. Since the building has a no floor, a sample will be collected from within the building and one from in front of the entrance where movement of materials in and out of the building occurred. The distance from the Process Area, and the lack of a concrete floor, floor drains, water, plumbing, or any sign of mechanical structures suggests that the building was not used for repair, washing, or painting. Although there is no apparent reason to believe that any potential contaminants of concern were ever stored or used at the building, the lack of a concrete floor raises the potential for impact to the surface if potential contaminants were stored there (as compared to a building with a concrete floor). Samples will be submitted for full profile analyses.

Table 1. Process Areas Sampling Schedule -- Continued

Component	I.D. On Figures	Surface Samples Collected	Analyses	Rationale For Sample Locations And Analyses
Water Tank	BB (Figure 4E)	0	--	The Water Tank (BB; Figure 4E) was used to supply water for the mine and for Weed Heights, and is currently out of operation. The capacity and volume of water remaining in the tank is unknown. There is no reason to believe that any potential contaminants of concern were ever used or stored at this location.
Primary Crusher Foundation	CC (Figure 4E)	2	Full Profile Analyses	The Primary Crusher (CC; Figure 4E) was used to crush the ore to a five-inch product before being sent on to the Secondary Crusher, which reduced it to 0.5-inch diameter. All that remains of the Primary Crusher is the concrete foundation and walls. The area of the foundation and walls is approximately 50 feet by 50 feet. Therefore, two samples will be collected , including one from around the crusher area next to foundations, and one from the area where conveyors apparently exited the crusher. Historical records indicate that ore crushing appears to be the only activity at this component. There is no reason to believe that any potential contaminants of concern other than metals in the ore and lubricants such as oil for machinery parts were ever stored or used. Leaching did not occur at the crusher. Samples will be submitted for full profile analyses.
Anaconda Solution Tanks	DD (Figure 4D)	8	Full Profile Analyses	The Solution Tanks (DD; Figure 4D) consist of concrete floors and concrete walls approximately 18 feet tall. These concrete tanks were used to temporarily hold the leached acid/copper solution from the Leach Vats (P) before being pumped into the Precipitation Plant (EE) launders. The interiors of the solution tanks will be inspected for cracks, and if any are observed, these will be recorded and inspected. According to historical drawings, the southeast end of the tanks contained a sump for collection of solution, probably where the transfer pump was located. The southernmost Solution Tank was used to store chemicals or petroleum products in approximately 280 55-gallon drums and soils in nine plastic 250-gallon containers. Several of the drums were damaged, and some were labeled as containing PCBs. Therefore, eight samples will be collected at each of the corners of tanks, as close as possible to the tank walls. The southern-most corner sample will be towards the center of the wall, near the former sump/pump. The potential contaminants of concern used in this area were acid and the material stored in the 55-gallon drums. Samples will be submitted for full profile analyses.
Precipitation Plant	EE (Figure 4D)	10	Full Profile Analyses and Radionuclides	The Precipitation Plant (EE; Figure 4D) consisted of fifteen parallel concrete launders filled with light gauge scrap iron that were used to precipitate copper from the sulfuric acid leach solution pumped out of the Leach Vats (P). A historical diagram of the Precipitation Plant indicates that along the outside perimeter of the launders, several pumps and associated piping were constructed to convey stripping solution and spent solution, and recirculation sumps were located at the approximate midway point along the sides of the plant, and at the southeast end of the plant. The plant is approximately 600 feet long and 60 feet wide. Ten samples will be collected from along the sides of the plant, with the two southeast samples collected closer to the center where the former recirculation sump was located. Besides the sulfuric acid solution and inherent metals, it is possible that lubricant oils and solvents associated with pumps and an overhead crane could have been used. Samples will be submitted for full profile analyses and radionuclides.
Solution Tanks Electrical Bldg & Unknown Basement	FF (Figure 4C)	4	Full Profile Analyses	The Solution Tanks Electrical Building and Unknown Basement (FF; Figure 4C) are comprised of the electrical building that serviced (at least) the pumps for the Solution Tanks (DD) and the Precipitation Plant (EE), and the basement foundation of a building with unknown purpose. Although there is no apparent oil staining, the potential for the past use of transformers in this building exists. The nature of operations in the building where the open basement foundation remains is uncertain. Therefore, four samples will be collected, including one from alongside a concrete pad next to the electrical building, one from in front of the doorway, and two from around the perimeter of the open basement foundation. The potential contaminants of concern used in this area were acid solution and transformer oil. Samples will be submitted for full profile analyses.
Sulfide Plant Office	GG (Figure 4C)	1	Full Profile Analyses	The Sulfide Plant Office (GG; Figure 4C) is empty with the exception of archived soil samples. The office was apparently used for ancillary administrative purposes related to sulfide plant operations. There is no reason to believe that any potential contaminants of concern were ever used or stored at this building. However, one sample will be collected from in front of the single-wide entrance. Samples will be submitted for full profile analyses.
Sulfide Plant	HH (Figure 4D)	12	Full Profile Analyses and Radionuclides	All buildings in the Sulfide Plant Area (HH; Figure 4D) have been removed, and only concrete structures remain. Some of the structures, such as slabs and ramps, appear to be at and above surface, and some of the structures such as trenches and thickeners are partially buried. All of the circular-shaped thickeners have been filled with alluvial material. Two concrete-lined conveyor ways run from the bottom of the sulfide fine ore stockpile, underneath the road, and up into the Sulfide Plant. The total area of the plant is approximately 800 feet by 400 feet. Therefore, 12 samples will be collected, including six at former thickener tanks, three from an area where several small foundations exist, two from the center of the plant near a walled concrete structure, and one from a concrete structure at the south corner of the plant. The potential contaminants of concern used in this Sulfide Plant area are metals associated with the sulfide ore. Samples will be submitted for full profile analyses and radionuclides.
Concrete Ramps	II (Figure 4D)	2	Full Profile Analyses	There are two sloped Concrete Ramps (II; Figure 4D) east of the Sulfide Plant (HH) that are approximately 25 feet wide by 50 feet long. The exact nature of their past use is uncertain, but it is possible that these ramps were used to back haul trucks up to for loading of sulfide ore that was transported to Wabuska for smelting. Therefore, a sample will be collected from the loading end of each ramp. The potential contaminants of concern used in this area are metals associated with the sulfide ore. Samples will be submitted for full profile analyses.
Low area - discolored	JJ (Figure 4D)	1	Full Profile Analyses	This topographic low area (JJ; Figure 4D) is located approximately 800 feet east of the Sulfide Plant (HH) at a lower elevation than the general ground surface at the Process Areas. The low area exhibits apparent runoff accumulation from the surrounding topography. The area is approximately 50 feet in diameter. Therefore, a sample will be collected from the lowest elevation in the area, where discolored ground surface is observed. The potential contaminants of concerns are those associated with the Sulfide Plant and possible runoff from areas of oil or solvent -stained ground surface. Samples will be submitted for full profile analyses.
Low area - discolored	KK (Figure 4D)	1	Full Profile Analyses	This topographic low area (KK; Figure 4D) is located approximately 800 feet east of the Sulfide Plant (HH) at a lower elevation than the general ground surface at the Process Areas. The low area exhibits apparent runoff accumulation from the surrounding topography. The area is approximately 60 feet in diameter. Therefore, a sample will be collected from the lowest elevation in the area, where discolored ground surface is observed. The potential contaminants of concerns are those associated with the Sulfide Plant and possible runoff from areas of oil or solvent -stained ground surface. Samples will be submitted for full profile analyses.

Table 1. Process Areas Sampling Schedule -- Continued

Component	I.D. On Figures	Surface Samples Collected	Analyses	Rationale For Sample Locations And Analyses
Drum storage - Tar	LL (Figure 4D)	1	Full Profile Analyses	The Tar Drum Storage area (LL; Figure 4D) contained 23 drums of tar, some of which showed some leakage to the ground, outside of the northeast portion of the Equipment Garage (L). The total area of the tar storage is approximately 25 feet by 10 feet. Although the tar is hardened on the ground surface, a sample will be collected from below the tar leakage near one of the drums. The potential contaminants of concern are those associated with petroleum hydrocarbons in the heavy, less volatile range. Samples will be submitted for full profile analyses.
Truck Shop floor drain outlet	MM (Figure 4B)	1	Full Profile Analyses	The Truck Shop floor drain runs underground from the Truck Shop (K) to an open area to the northeast where the drain outlet is located (MM; Figure 4B). Electrical transformers were re-conditioned inside the Truck Shop in the 1980s by a company named Unison. Several areas are present on the concrete floor of the Truck Shop where former floor drains have apparently been filled in with cement. (Refer to the Truck Shop description, K). The drain outlet and the area where effluent flowed are both visible, and a sample will be collected from this area. It is apparent that the Truck Shop was used for large equipment servicing and transformer storage, and thus represents a potential source for oils, gasoline, solvents, and PCB. Samples will be submitted for full profile analyses.
Stacker Area	NN (Figure 4A)	2	Full Profile Analyses	The Stacker Area (NN; Figure 4A) is located between the Secondary Crusher Area (OO) and the former ore stockpile, shown on Figure 4A. The area where the stacker was located has had all components removed, and has been re-graded. The area is estimated to be approximately 60 feet by 30 feet, based on historical information. Based on knowledge of where the stacker/conveyance area was located, two samples will be collected. The potential contaminants of concern are associated with crushed ore, namely metals. Samples will be submitted for full profile analyses.
Secondary Crusher Area	OO (Figure 4A)	4	Full Profile Analyses	The Primary Crusher (CC) was used to crush the ore to a five-inch product before being sent on to the Secondary Crusher (OO; Figure 4A), which reduced it to a nominal $^{7}/_{16}$-inch diameter. The Secondary Crusher received the five-inch ore in two overhead screened feeders above the crushing unit, a Symons standard crusher. An underground concrete conveyor way exists underneath the Secondary Crusher cone foundations, between the Secondary Crusher and the ore stockpile just north of the Primary Crusher. Underground concrete conveyor ways are also present between the Secondary Crusher area and just south of the Mega Pond. A transformer pad and transformers exists at the northwest end of the area. Therefore, four samples will be collected from around the perimeter, including one alongside the cone crushers, one where the conveyor enters the crusher area, one near the transformer pad at the northwest end, and one along the southwest side. The potential contaminants of concern are metals associated with crushed ore and oil and PCB associated with the transformer pad. Samples will be submitted for full profile analyses.
Acid Tanks	PP (Figure 5)	4	Full Profile Analyses	The Acid Tanks area (PP; Figure 5) is located approximately one mile northwest of the main Process Area. A 50,000-gallon metal sulfuric acid tank is situated within an earth-bermed, plastic-lined secondary containment area. Approximately 30 feet outside of the 50,000-gallon tank secondary containment, an approximate 10,000-gallon acid tank is laying on its side on the ground with chocks to prevent rolling. Two metal sulfuric acid tanks of approximately 5,000-gallon capacity are located approximately 70 feet northwest of the 50,000-gallon tank. These two tanks are situated in an earth-bermed, plastic-lined secondary containment. Soil within the secondary containment and at the end of an outlet pipe outside the secondary containment is yellow-colored. The contents of all the acid tanks have been drained, but the tanks have not been cleaned out. Therefore, four samples will be collected, including one from the perimeter of the secondary containment for the 50,000-gallon tank at a point closest to the valve connection, one from the lowest end of the tank laying on its side, and two from the perimeter of the secondary containment for the two other tanks at points closest to where discolored soil was observed. The potential contaminants of concern in the acid tanks area are sulfuric acid stored in the tanks. Samples will be submitted for full profile analyses.
Airmetco Crusher/Hopper	QQ (Figure 5)	2	Full Profile Analyses	The Airmetco Crusher/Hopper (QQ; Figure 5) was located approximately one mile northwest of the main Process Area, on the north side of the Oxide Ore Waste Rock area. The components have been removed and the area has been re-graded. Two samples will be collected from this area based on the best knowledge of where the crusher was located, by measuring distances from nearby landmarks on historical site maps. The potential contaminants of concern in the area are sulfuric acid and metals associated with the crushed ore. Samples will be submitted for full profile analyses.
Arimetco Stacker Area	RR (Figure 5)	2	Full Profile Analyses	The Arimetco Stacker Area (RR; Figure 5) is a lined stockpile area that existed approximately one mile northwest of the main Process Area. Acid-treated crushed ore was placed on the stockpile area. After the Crusher/Hopper (QQ) was removed, the stockpile area was excavated and placed on the VLT Leach Pad. Two samples will be collected from this area based on the best knowledge of where the crusher was located by measuring distances from nearby landmarks on historical site maps. The potential contaminants of concern in the area are sulfuric acid and metals associated with the crushed ore by measuring distances from nearby landmarks on historical site maps. Samples will be submitted for full profile analyses.
Former Acid Plant	SS (Figure 4F)	0	--	The Acid Plant (SS; Figure 4F) was located where the Phase III - South Heap Leach Pad is currently situated. Crushed sulfur ore was introduced into propane gas reactors, where it was heated to approximately 1,100 degrees Fahrenheit to produce the sulfur dioxide gas. The heated gas entered cooling towers where it condensed to sulfuric acid. Dusts from the gas were removed by wet scrubbers, mist precipitators, and cyclones, and these were sent along with calcines (burned ore) from the reactors to the "evaporation area", using the spent solution from the precipitation launders as a conveyance medium. The means of transport was a concrete ditch from the Acid Plant. Selenium was also recovered from the precipitated solids of the dust control process. Since the former plant is now buried underneath a leach pad, no samples will be collected from this area. The potential for impact to groundwater will be monitored by monitoring wells. The potential contaminants of concern in the former Acid Plant area are sulfuric acid and metals associated with the crushed sulfur ore, including the by-product selenium.
Motor Cargo Building	TT (Figure 4F)	4	Full Profile Analyses	The Motor Cargo Building (TT; Figure 4F) is located northwest of the Core Building (AA), to the southwest of the former Acid Plant (SS). Although the exact nature of current operations inside the building is uncertain, the city of Weed Heights currently operates the Motor Cargo Building and surrounding fenced-in storage yard for equipment and supplies storage. Previously, the building was used for parking and possibly repair of trucks that were used to transport oxides and chemicals to and from Wabuska for train shipment. Several 55-gallon drums of unknown content exist inside the fenced storage yard. Four samples will be collected from the area: two from the area where the drums are located, and two from locations near the building, which will be based on further investigation. Samples will be submitted for Full Profile Analyses.

Table 1. Process Areas Sampling Schedule -- Continued

Component	I.D. On Figures	Surface Samples Collected	Analyses	Rationale For Sample Locations And Analyses
Old Crusher Site	UU (Figure 4)	2	Full Profile Analyses	The Old Crusher Site (UU; Figure 4) is a concrete foundation that exists approximately 2,100 feet southeast of the Administration Building (A) near the southeast corner of the Phase II Heap Leach Pad was a former crusher area. The foundation has no structures or equipment attached. Next to the foundation is an area where a former acid tank may have been located. The ground surface around the former tank area is discolored yellow. Therefore, a sample will be collected from around the perimeter of the area where a former tank may have been, in the area of discolored soil, and also one from alongside the foundation.. The potential contaminants of concern in this area are sulfuric acid and metals associated with crushed ore. Samples will be submitted for full profile analyses.
Tailings Pumphouses	VV (Figure 2)	4	Full Profile Analyses	The Tailings Pumphouses (VV; Figure 2) are two buildings containing large pumps and associated piping located east of the Evaporation Ponds. The easternmost building has a sign on the outside wall "Tailings Pumphouse" and contains two large pumps with approximate 16-inch diameter piping entering straight into the ground and underground out to the south. The other building consists of large pumps on a raised concrete deck, associated piping, and a concrete holding tank with level gauge. The previous operation of the Tailings Pumphouses most likely involved pumping of fluidized, spent processed ore from the Process Areas to the Sulfide Tailings area. The pumps in these buildings are large enough to represent a potential source of TPH-GRO contamination if there happened to be a continuous leak of lubricant oil. Therefore, two samples will be collected from each of the two buildings. The easternmost pumphouse samples will be collected from around and next to the large pumps and pipes. The other pumphouse samples will be collected from around the deck where the pumps are located, and from next to the outside walls of the holding tank. The potential contaminants of concern in this area are sulfuric acid and metals associated with tailings, and lubricant oil from the pumps. Samples will be submitted for full profile analyses.
Former Calcine Ditch	WW (Figures 4F and 4D)	10	Full Profile Analyses and Radionuclides	In the former Acid Plant (SS), dusts from gas produced in the manufacture of sulfuric acid were removed by wet scrubbers, mist precipitators, and cyclones, and the resulting wet slurry was directed to four calcine launders – concrete troughs covered with steel plates. From the launders, the slurry was sent along with calcines (burned ore) from the Acid Plant reactors to the "evaporation area", likely along the Calcine Ditch (WW; Figures 4F and 4D), using the spent solution from the precipitation launders as a conveyance. The location of the former calcine ditch has been estimated from historical drawings and articles. The length of the ditch is approximately 3,200 feet. To provide a comprehensive characterization of the ditch, samples will be collected along the ditch at intervals of approximately 200 feet, including at the end of the ditch. The 1,200–foot portion of the ditch that is closest to the source, the former Acid Plant, is buried under a heap leach pad, and therefore will not be sampled. This should provide a comprehensive assessment of surface impact, if any, from the conveyed calcines. The potential contaminants of concern in this area are sulfuric acid and metals associated with the conveyed calcines and the collected stack dust. Samples will be submitted for full profile analyses and radionuclides.
Former Acid Plant Pond Site	XX (Figure 4C)	0	--	The former Acid Plant Pond Site (XX; Figure 4C) was a holding pond that was located northwest of the former Acid Plant. Because of the proximity of the former pond to the former Acid Plant (SS), it is reasonable to believe that the pond was associated with the plant, perhaps to temporarily hold or evaporate fluid from the plant. However, the exact nature of the liquid that was held in the former pond is unknown. Since historical articles document conveyance of collected stack dust and spent ore from the plant reactors (calcines) along the Calcine Ditch (WW) to an area northwest of the Process Areas, the pond apparently did not contain calcines. The dimensions of the former pond were estimated to be approximately 80 feet by 50 feet. The pond, however, is buried beneath a heap leach pad, which precludes sampling. The nature of the pond's contents were likely to be a solution associated with ore processing (acidic, metals, and perhaps petroleum hydrocarbons).
Former Sulfide Ore Stockpile Area and Underground Conveyor Ways	YY (Figure 4D)	2	Full Profile Analyses	The Underground Conveyor Ways (YY; Figure 4D) are two underground concrete conveyor ways that exist from the former Sulfide Ore Stockpile (YY; Figure 4D) to the Sulfide Plant (HH). This stockpile of sulfide ore was used to supply the Sulfide Plant for processing through the flotation and concentration process. The location of the former stockpile was estimated based on historical drawings and photographs. Two samples will be collected from the area where the stockpile is estimated to have been, from the estimated end of the conveyors at the Sulfide Plant. The potential contaminants of concern in this area are metals associated with the conveyed ore. Samples will be submitted for full profile analyses.
Surface Pumps Foundation	ZZ (Figure 2)	1	Full Profile Analyses	The Surface Pumps Foundation (ZZ; Figure 2) is an above-ground concrete foundation that exists just east of the middle Evaporation Pond in a low area near the northeast boundary of the mine site. The structure is a concrete holding tank approximately four feet deep, and 30 feet by 30 feet in area, with a grated inlet on the north side at ground surface, and openings in the top that suggest the presence of large pumps. The structure appears to have collected surface water or fluids from the surrounding topographic low area. Therefore, one sample will be collected from in front of the grated inlet. The potential contaminants of concern near this structure are sulfuric acid and metals associated with surface runoff over tailings. Samples will be submitted for full profile analyses.
Concrete Pump Tank	AAA (Figure 2)	1	Full Profile Analyses	The Concrete Pump Tank (AAA; Figure 2) is a large abandoned above-ground concrete tank that is present east of Well WW-8 at the southern end of the Unlined Evaporation Pond. The tank is approximately 12 feet high and 30 feet by 20 feet in area, and appears to have had pumps attached to an integral concrete platform above the tank. A manhole with an apparent former valve ahead of the tank is present approximately 60 feet to the south of the tank. The nature of the former operation of this tank and associated piping is unknown. A sample will be collected from the wall of the tank next to the manhole/valve. The potential contaminants of concern are those associated with liquids that could have potentially have been contained in the tank and conveyed along the piping. These include water, acidic solutions, or calcines if the piping is a continuation of the calcine ditch. Samples will be submitted for full profile analyses.
Electrical Stations and Sub-stations	---	12	Full Profile Analyses	Several electrical sub-stations exist at the mine site, some of which have transformers that have leaked oil. There are at least 67 transformers on-site, either inoperative or still in use, mounted on poles or on concrete pads within fenced-in areas. The building foundation for the former Anaconda power station is partially buried just west of the Administration Building. The former Anaconda power station consisted of three one-megawatt generators that were sold when the station was decommissioned. The potential contaminants of concern at the electrical substations are those associated with leaking transformers, namely oil and PCB. Twelve samples will be collected (2 from each of six sub station locations). Samples will be collected as close as possible to the outside perimeter of transformer pads, where stained ground surface (if present) is visible. Samples will be submitted for full profile analyses.

Table 1. Process Areas Sampling Schedule -- Continued

Component	I.D. On Figures	Surface Samples Collected	Analyses	Rationale For Sample Locations And Analyses
Underground Utilities and USTs	Figures 6, 6A, 6B, 6C	Approximately 65	Full Profile Analyses	Process Area maps archived at the mine site were reviewed to provide historical locations of piping for process fluids, sewer, drains, and fuel. These piping alignments are shown in Figures 6, 6A, 6B, and 6C. Some of these alignments may still exist, and some may not. To determine which piping alignments still exist and their lateral extent, a backhoe will be used to excavate down to five feet below ground surface at each map location where the end of a pipe is indicated. If no piping is encountered, the excavation will be backfilled and no sample will be collected. If piping is encountered, a sample will be collected from 6 to 12 inches directly beneath the bottom of the piping at the closest pipe junction or connection. The sample will be submitted to the laboratory for the Full Profile Analyses. The location, diameter, condition, compass alignment (direction pipe is heading), and other noteworthy observations of the piping will be recorded in the field notebook. If sample analysis results indicate that no impact to soil has occurred at the point of excavation, then no further investigative action will be necessary. If sample analysis results indicate that impact to soil fro m pipe leakage has occurred, or if holes or significant corrosion to the piping was observed, or if there is indication that the integrity of pipe junction points may be compromised, then further delineation and sampling would be required in subsequent phase(s) of investigation. In those locations where there is a reasonable potential that UST(s) exist or existed, such as the former fueling stations or locations where 2-inch or larger diameter pipes are protruding from the ground, the presence or absence o f UST(s) and associated piping will be confirmed. This confirmation will be accomplished through the combined use of industrial utility locating devices and backhoe excavation. If a UST is encountered, remedial action (excavation and removal of the tank and confirmation sampling) will not be conducted under this work plan, but will be conducted under a separate work plan. The UST location, size, general condition, type, and burial depth will be noted in the field notebook for use in future remedial activ ities. Additionally, if a UST is found, an attempt will be made to determine whether the tank contains any liquid. This will be accomplished by lowering of a measuring stick or tape into the tank through the protruding fill pipe or vent pipe, if present. The nature and depth of the liquid will be recorded in the field notebook.
Other Stained Soil Samples: observed during investigation	---	Unknown	Full Profile Analyses	During the field investigation, samples will be collected where additional areas where ground surface is stained or where other observed conditions in the field justify collection of a sample in a specific location. Limited excavation may be conducted to remove small areas of stained soil and to provide limited delineation of the extent of staining. In this case, two confirmation samples would be collected at the bottom of the excavation near sidewalls, to characterize the horizontal and vertical extent of soil remaining. The potential contaminants of concern at these potential structures is unknown at present; samples will be submitted for full profile analyses.

Full Profile Analyses:

ABA= Acid Base Accounting.

WRA= Whole Rock Analysis

VOC= Volatile Organic Compounds by GC/MS Capillary Column; Method 8260B.

SVOC= Semi-volatile Organ ic Compounds by GC/MS Capillary Column; Method 8270C.

OP= Organochlorine Pesticides by Cap Column GC; Method 8081A

PCB= Poly -chlorinated biphenols by Cap Column GC; Method 8082.

CH= Chlorinated Herbicides by GC Cap Column; Method 8151A.

TPH-GRO/DRO= Total Petroleum Hydrocarbons- Gasoline Range Organics / Diesel Range Organics / Non-halogenated Volatiles including by GC/FID; Method 8015B-GRO, DRO.

Radionuclide analyses include: Radium-226, Radium-228 and Uranium